

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ  
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**101 – ї**

**підсумкової наукової конференції**

**професорсько-викладацького персоналу**

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activation of inflammatory cells (eg, neutrophils, T-lymphocytes, macrophages, mast cells) and the generation of large numbers of prooxide and / or proinflammatory mediators. Such mediators are cytokines (e.g, interleukin-6), acute-phase proteins (e.g, C-reactive protein and fibrinogen), vasoactive hormones (e.g, endothelin), and activated leukocytes, which can lead to endothelial dysfunction and pro-coagulation state with formation thrombus and progression of atherosclerotic lesions. Changing the balance of the autonomic nervous system: inhaled particles deposited in the pulmonary tree can directly stimulate the pulmonary reflexes through irritation of the receptors. This, in turn, may alter the balance of the autonomic nervous system (inhibition of the parasympathetic nervous system and / or activation of the sympathetic nervous system). These changes can also be indirectly caused by oxidative stress and inflammation in the lungs, or a combination of both. Changes in autonomic tone can contribute to instability of vascular plaques or initiate cardiac arrhythmias. Direct effect of UFP and / or soluble particle components in the bloodstream: after inhalation, these particles can quickly penetrate the bloodstream and directly affect the cardiovascular system. UFP or soluble compounds can provoke local inflammation and oxidative stress, as well as affect vascular endothelium and atherosclerotic plaques.

In recent years, a number of specific biological mechanisms have been proposed that can directly explain the triggering of cardiovascular events. These include vascular dysfunction or vasoconstriction, increased thrombosis or coagulation potential, increased blood pressure, progression of atherosclerosis, or platelet vulnerability and arrhythmia. For example, a major cause of coronary syndrome and cardiovascular death is damage to the atherosclerotic plaque and the formation of a blood clot. Therefore, air pollution and acute cardiovascular events may be related to changes in blood clot formation or vessel wall behavior.

Thus, at the present stage, there are three main mechanisms of UFP influence on the cardiovascular system: systemic inflammation, change in the balance of the autonomic nervous system, the direct effect of UFP on the vessel wall.

**Kotsubiychuck Z.Ya.**

**METHOD OF BLOOD PRESSURE CORRECTION IN PATIENTS WITH NON-ALCOHOLIC STEATOHEPATITIS AND DIABETIC NEPHROPATHY AGAINST OBESITY**

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Nonalcoholic steatohepatitis (NASH) is one of the major problems of internal medicine, has a general medical and social importance. Diabetic kidney disease - kidney damage in patients with type 2 diabetes, the evolution of which is characterized by the stability of functional and morphological changes in the kidneys, reduced GFR. Currently, the increase in the incidence of non-alcoholic fatty liver disease (NAFLD) and type 2 diabetes is that they are an essential component of metabolic syndrome and a risk factor for cardiovascular and dysmetabolic complications.

We aimed to investigate the effect of ramipril on blood pressure in patients with NASH, diabetic nephropathy and obesity in their comorbidities, as well as the efficacy of energy in different combinations of treatment in patients with comorbid course of these diseases.

40 patients with isolated NASH and with a comorbid course of diabetic nephropathy against obesity were examined. There were 2 groups of patients, each randomized by age, sex, degree of obesity, and cytolytic syndrome activity. The mean age of the patients was  $45.1 \pm 5.2$  years. There were 28 men and 12 women. The main group (20 people) received a hypocaloric diet, metmorphine 500 mg twice daily, energies as a hepatoprotector 1 capsule 3 times a day, rosuvastatin 10 mg once a day as a lipid-lowering agent and ramipril 10 mg daily for 20 days. The control group (20 people) received a hypocaloric diet, metmorphine 500 mg twice daily, energies 1 capsule 3 times daily, rosuvastatin 10 mg daily and fosinopril 10 mg daily for 20 days.



The results of the study showed indicators of systolic blood pressure (SAP) and diastolic blood pressure (DAP) on the 14th day of treatment decreased in the control group by 19%, in the main group by 30.8%. Under the influence of ramipril, the heart rate (HR) decreased by 18.3%, while under the influence of fosinopril it decreased by 11.3%. The degree of portal hypertension decreased in the main group by 50%, against 80% in the control group. Due to the action of energies as hepatoprotector and antioxidant agent, the content of NO increased 1.5 times before treatment, decreased by 27.0% and in the main group by 38.4%, which can be explained by its effect as hepatoprotector.

The use of ramipril complex, energies to standard therapy gave a positive effect of application, achieving positive dynamics, reduction of SAP and DAP, as well as a decrease in heart rate, a decrease in the degree of portal hypertension and nitrite levels.

**Kulachek V.T.**

### **THE MORPHOFUNCTIONAL ERYTHROCYTE PROPERTIES IN RHEUMATOID ARTHRITIS PATIENTS WITH RENAL TUBULOINTERSTITIAL DAMAGE**

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Rheumatoid arthritis (RA) is a chronic crippling disease that can affect various organ systems including the kidney. Renal involvement in RA is clinically meaningful because it worsens the course of primary disease and increases mortality. Subjects hospitalized for RA are significantly more likely to have a recorded cause of death due to renal failure. Proteinuria may be the first clinical sign in many renal disorders, for example, in amyloidosis patients.

Erythrocytes, in addition to oxygen transport function, occupy a prominent place in the regulatory exchange processes in the body, providing microcirculation of organs and tissues, in particular, the kidneys.

To study morphofunctional properties of erythrocytes at different stages of evolution of chronic kidney disease (CKD) in patients with RA.

The study involved 108 patients with RA II-III degree of activity. According to a survey of patients were divided into four groups (I-patients with RA without renal disease (n=20), II-patients with RA with CKD stage I (n=31), III-patients with RA with the presence of CKD stage II (n=31), IV-patients with RA with the presence of CKD stage III (n=25). Comparison group was 20 healthy individuals. In addition to conventional laboratorial tests, the index of erythrocytes deformability, the relative viscosity of the erythrocyte suspension (RVES), and the peroxide hemolysis of red blood cells (PGE) were studied.

The progressive violations of the morphofunctional properties of erythrocytes in patients with rheumatoid arthritis with CKD I-III are determined. The a significant decrease of the erythrocyte deformability index ( $p < 0,05$ ) and the increase of the RVES ( $p < 0,05$ ). It has been found the direct correlation between the RVES and the proteinuria ( $r = 0.87$ ), the inverse correlation between the RVES and the glomerular filtration rate ( $r = -0.71$ ,  $p < 0.05$ ). PGE increased in patients with RA with the presence of CKD and its growth stage.

Thus, analyzing the overall change in the morphofunctional properties of erythrocytes, it has been found that the indicators of RVES and PGE significantly increase with the presence of RA, but with the advent of kidney damage, changes are becoming progressive. Indicators of the erythrocyte deformability index are reduced in patients with RA with involvement in the pathological process of the kidneys, which can be regarded as one of the methods of early kidney damage in this category of patients. The most severe microcirculatory changes occurred in patients with RA with CKD III stage. These findings indicate the important role of microcirculatory disorders in this category of patients and the necessity of their correction.